WHAT IS CLAIMED IS

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1. An image forming apparatus comprising:

a light source portion emitting a plurality of

light beams;

a photoconductive body having an image forming

10 surface;

a deflecting unit deflecting the plurality of light

beams from the light source portion to simultaneously

scan the image forming surface of the photoconductive

body; and

15 a controller controlling the plurality of light

beams to form an evaluation chart on the image forming

surface of the photoconductive body,

said evaluation chart including first patterns and

second patterns,

20 in the first pattern, with respect to a row of dots

formed in a main scan direction by a predetermined light

beam, a row of dots formed by a next light beam is

shifted in the main scan direction,

in the second pattern, with respect to the row of

25 dots formed in the main scan direction by the

predetermined light beam, the row of dots formed by the
next light beam is shifted in the main scan direction
but in a direction opposite to a shift direction of the
first pattern,

5   said evaluation chart including a first pattern
group which is formed by the first patterns which are
repeated in a sub scan direction with a period that is
an integer multiple of a total number of the plurality
of light beams and are also repeated in the main scan

10   direction at predetermined intervals, and a second
pattern group which is formed by the second patterns
which are repeated in the sub scan direction with a
period that is an integer multiple of the total number
of light beams and are also repeated in the main scan

15   direction at predetermined intervals.

20   2.   The image forming apparatus as claimed in
claim 1, further comprising:
      an output section printing the evaluation chart on
the image forming surface of the photoconductive body
onto a recording medium.

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3. The image forming apparatus as claimed in claim 2, wherein said output section prints the evaluation chart such that, of the plurality of light beams B1, B2, ..., Bm, where Bm $\geqq$ 2, the first and

5 second pattern groups formed by the light beams B1 and B2, the first and second pattern groups formed by the light beams B2 and B3, ..., the first and second pattern groups formed by the light beams B(m-1) and Bm, and the first and second pattern groups formed by the light

10 beams Bm and B1 are printed on a single recording medium.

15 4. The image forming apparatus as claimed in claim 1, wherein corresponding first and second pattern groups are arranged adjacent to each other on the evaluation chart.

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5. The image forming apparatus as claimed in claim 1, wherein each first pattern group has a

25 corresponding second pattern group arranged adjacent

thereto in both the main scan direction and the sub scan

direction.

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6. The image forming apparatus as claimed in claim 1, wherein said controller variably controls a number of dots of the row of dots of each of the

10 plurality of light beams when forming the evaluation chart.

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7. The image forming apparatus as claimed in claim 1, wherein said controller variably controls a distance in the main scan direction between the row of dots formed by the predetermined light beam and the row

20 of dots formed by the next light beam when forming the evaluation chart.

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8. The image forming apparatus as claimed in claim 1, wherein said controller variably controls conditions related to forming the dots when forming the evaluation chart.

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9. The image forming apparatus as claimed in

10 claim 1, wherein said controller controls the plurality of light beams to form an evaluation chart having a pattern group of one of the plurality of light beams with a phase which is shifted in advance in the main scan direction, with respect to each of the first

15 pattern group and the second pattern group.

20 10. The image forming apparatus as claimed in claim 9, further comprising:

phase correcting amount setting means for setting a phase correcting amount in the main scan direction.

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11. An image forming apparatus comprising:

a light source portion emitting a plurality of light beams;

a photoconductive body having an image forming

5 surface;

a deflecting unit deflecting the plurality of light beams from the light source portion to simultaneously scan the image forming surface of the photoconductive body; and

10 a controller controlling the plurality of light beams to form an evaluation chart on the image forming surface of the photoconductive body,

said evaluation chart including first patterns and second patterns,

15 in the first pattern, with respect to a row of dots formed in a main scan direction by a predetermined light beam, a row of dots formed by a next light beam is shifted in the main scan direction,

in the second pattern, with respect to the row of

20 dots formed in the main scan direction by the predetermined light beam, the row of dots formed by the next light beam is shifted in the main scan direction but in a direction opposite to a shift direction of the first pattern,

25 said evaluation chart including a first pattern

group which is formed by the first patterns which are
repeated in a sub scan direction with a period that is
an integer multiple of a total number of the plurality
of light beams, and a second pattern group which is

5   formed by the second patterns which are repeated in the
sub scan direction with a period that is an integer
multiple of the total number of light beams.

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12.   The image forming apparatus as claimed in
claim 11, further comprising:
an output section printing the evaluation chart on

15   the image forming surface of the photoconductive body
onto a recording medium.

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13.   The image forming apparatus as claimed in
claim 11, wherein the first and second pattern groups
arranged in the sub scan direction in the evaluation
chart are disposed in a scan start side of a scan range

25   of said deflecting unit.

14. The image forming apparatus as claimed in claim 11, wherein the first and second pattern groups arranged in the sub scan direction in the evaluation chart are disposed in approximately a central portion of

5 a scan range of said deflecting unit.

10 15. The image forming apparatus as claimed in claim 11, wherein said controller variably controls a number of dots of the row of dots of each of the plurality of light beams when forming the evaluation chart.

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16. The image forming apparatus as claimed in

20 claim 11, wherein said controller variably controls a distance in the main scan direction between the row of dots formed by the predetermined light beam and the row of dots formed by the next light beam when forming the evaluation chart.

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17. The image forming apparatus as claimed in claim 11, wherein said controller variably controls conditions related to forming the dots when forming the evaluation chart.

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18. The image forming apparatus as claimed in
10 claim 11, wherein said controller controls the plurality of light beams to form an evaluation chart having a pattern group of one of the plurality of light beams with a phase which is shifted in advance in the main scan direction, with respect to each of the first
15 pattern group and the second pattern group.

20   19. The image forming apparatus as claimed in claim 18, further comprising:
    phase correcting amount setting means for setting a phase correcting amount in the main scan direction.

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20. An image forming apparatus comprising:

pattern group generating means for generating on an image forming surface of a photoconductive body an evaluation chart having a pattern group of one of a

5 plurality of light beams with a phase which is shifted in advance in a main scan direction, with respect to each of a first pattern group and a second pattern group;

tone measuring means for measuring a tone of the

10 pattern group in the evaluation chart; and

phase correcting amount setting means for setting a phase correcting amount in the main scan direction, based on the tone measured by said tone measuring means.

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21. The image forming apparatus as claimed in claim 20, further comprising:

20 phase synchronizing signal generating means for generating phase synchronizing signals of the plurality of light beams, based on the phase correcting amount set by said phase correcting amount setting means.

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22. An image forming apparatus comprising:

a pattern group generator generating on an image
forming surface of a photoconductive body an evaluation
chart having a pattern group of one of a plurality of

5   light beams with a phase which is shifted in advance in
a main scan direction, with respect to each of a first
pattern group and a second pattern group;

a tone sensor measuring a tone of the pattern group
in the evaluation chart; and

10   a phase correcting amount setting circuit setting a
phase correcting amount in the main scan direction,
based on the tone measured by said tone sensor.

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23. A computer-readable storage medium which
stores a program for causing a computer to carry out an
imaging process comprising the procedures of:

20   causing the computer to deflect a plurality of
light beams to simultaneously scan an image forming
surface of a photoconductive body; and

causing the computer to control the plurality of
light beams to form an evaluation chart on the image

25 forming surface of the photoconductive body,

said evaluation chart including first patterns and second patterns,

in the first pattern, with respect to a row of dots formed in a main scan direction by a predetermined light

5   beam, a row of dots formed by a next light beam is shifted in the main scan direction,

in the second pattern, with respect to the row of dots formed in the main scan direction by the predetermined light beam, the row of dots formed by the

10   next light beam is shifted in the main scan direction but in a direction opposite to a shift direction of the first pattern,

said evaluation chart including a first pattern group which is formed by the first patterns which are

15   repeated in a sub scan direction with a period that is an integer multiple of a total number of the plurality of light beams and are also repeated in the main scan direction at predetermined intervals, and a second pattern group which is formed by the second patterns

20   which are repeated in the sub scan direction with a period that is an integer multiple of the total number of light beams and are also repeated in the main scan direction at predetermined intervals.

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24. A computer-readable storage medium which
stores a program for causing a computer to carry out an
imaging process comprising the procedures of:

    causing the computer to deflect a plurality of
5 light beams to simultaneously scan an image forming
surface of a photoconductive body; and

    causing the computer to control the plurality of
light beams to form an evaluation chart on the image
forming surface of the photoconductive body,

10   said evaluation chart including first patterns and
second patterns,

    in the first pattern, with respect to a row of dots
formed in a main scan direction by a predetermined light
beam, a row of dots formed by a next light beam is
15 shifted in the main scan direction,

    in the second pattern, with respect to the row of
dots formed in the main scan direction by the
predetermined light beam, the row of dots formed by the
next light beam is shifted in the main scan direction
20 but in a direction opposite to a shift direction of the
first pattern,

    said evaluation chart including a first pattern
group which is formed by the first patterns which are
repeated in a sub scan direction with a period that is
25 an integer multiple of a total number of the plurality

of light beams, and a second pattern group which is formed by the second patterns which are repeated in the sub scan direction with a period that is an integer multiple of the total number of light beams.

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25. A computer-readable storage medium which
10 stores a program for causing a computer to carry out an imaging process comprising the procedures of:

causing the computer to generate on an image forming surface of a photoconductive body an evaluation chart having a pattern group of one of a plurality of
15 light beams with a phase which is shifted in advance in a main scan direction, with respect to each of a first pattern group and a second pattern group;

causing the computer to measure a tone of the pattern group in the evaluation chart; and

20 causing the computer to set a phase correcting amount in the main scan direction, based on the measured tone.

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